Reliance Communications Ltd. (RCom) Response to TRAI Consultation Paper on Implementation Model for BharatNet.

Preamble

1. Building of a PAN India optical network such as BharatNet is most essential for realizing the digitization aims set by the government. The information super-highway that would get created with the implementation of BharatNet would enable deep and wide connectivity across the length and breadth of the country. Towards this end, it is indeed commendable and we are thankful to TRAI for soliciting the opinions of all stakeholders, especially the private TSPs.

2. The project was envisaged to be completed within 2 years of its initiation; however, as brought out in the CP itself, it has achieved just about 1% of the required connectivity. TRAI in its recommendations on "Delivering Internet Quickly: what do we need to do?" dated 17 Apr 15, has clearly suggested the use of existing Optical Fiber Infrastructure of both the PSUs and the private TSPs. It has been brought out in these recommendations that "there are approximately 12,00,000 route km of OFC already available" and another service provider is likely to launch services "has planned to lay approximately 3,00,000 route km of OFC".

3. Giving out the details of the presence of private TSPs in various districts and blocks, these recommendations have highlighted the fact that "unfortunately, this presence has not been translated into provision of fixed BB to consumers". The Table below shows the presence of various operators at the DHQ / BHQ level. As per these recommendations of TRAI, private TSPs have their OFC present in 588 DHQs out of a total of 658 and 4048 BHQs out of a total of 6543. Based on these statistics, the Authority itself had observed that, "this shows at least one TSP has OFC presence in more than 62 per cent of block headquarters".

Private Operator	Presence in number of	
	Districts	Blocks
Reliance Communications	486	2547
Bharti Airtel	515	1981
Vodafone	408	1687
TTSL & TTML	357	1660
Idea Cellular	243	574
Aircel	131	208
Tata Communications	233	NA
Hathway Datacom	12	15

4. However, it is perplexing to note that the tenor of the current CP is biased towards fresh construction of the network rather than considering the existing OFC resources of the private TSPs as a national asset and suggesting / asking for suggestions for exploiting it as part of the BhartNet. We firmly believe that the **implementation of BharatNet can be fast**

tracked and its O & M made more economical if this approx 15 lakh Kms of OFC of the private TSPs is considered and utilized for building the BharatNet network.

5. Irrespective of the Network build model followed, i.e. the (a) CPSU-led, (b) State Government-led, (c) Private sector-led (EPC/Consortia) or the alternative BOOT model, full flexibility should be given to the implementer to source fiber from the existing TSP's including BSNL. **This fiber can be leased on an IRU model for 10 / 15 / 20 yrs and the SLA's for the same should be consistent with the SLAs within the build model.** These costs can be transparently passed on to BBNL / Govt as third party costs.

Executive Summary

1. **Implementation of BharatNet can be fast tracked and its O & M made more economical if the OFC of the TSPs (approx 15 lakh Kms) is utilized for building the BharatNet network.**

2. **Replication of the successful EPC model has a reasonable surelty for succeeding in faster and high quality development of BharatNet Network Infrastructure.**

3. **Fiber from the private operators can be leased on an IRU model for 10 / 15 / 20 yrs and the SLA's for the same should be consistent with the SLAs within the build model.**

4. **For ensuring speedier, timely and high quality project execution, the Project Management Organization (PMO) i.e. BBNL, should be able to directly monitor the projects' progress for adherence to the cost and time lines of the project.**

5. **For ensuring speedier, timely and high quality project execution, the implementation agency should be mandated to complete # RKM in XX Months with pre-mandated Duct / Fiber and Electronics Quality.**

6. **For ensuring speedier, timely and high quality project execution, the implementation agency should be permitted to exploit their sunken Fiber and Access Infra while realizing the proposed Contracted Goals of RKMs.**

7. **BOOT model is not suited for implementation of BharatNet at this stage and should not be implemented.**

8. **For ensuring speedier, timely and high quality project execution, technical and project implementation competencies and track record, any international experience, etc, should be the core criteria for section of the implementation agency instead of least cost based criteria.**

9. **In order to obviate any conflict of interests / monopolistic behavior of the implementation agency, TRAI should regulate the whole sale prices of the services that are provided over the network that is implemented as a BOOT model.**

10. **There should be no cap on the number of States / licensed service area to be bid by the executing agency.**

11. **The implementation agency should have the flexibility to consider alternate options viz. alternate architecture, selection of alternate routes, choice of alternate network topology, if its finds the existing one inappropriate & inefficient.**

12. **The changes asked for by the implementation agency should be vetted and approved / rejected on its merit, in a fixed time frame, by a formally constituted Change Acceptance Board (CAB).**

13. **Alternately if SLA's are well drafted and payments are linked to quantity, quality and timeliness of the work done, this formal approval process can also be avoided.**

14. **Monetization of the existing assets of the Telcos would be the most appropriate incentive for the private TSPs to participate actively in execution and faster operationalization of BharatNet Network.**

15. **Delay in project implementation should attract stiff penalties, subject to those delays not being attributable to issues beyond the control of the implementation agency. E.g. ROW, Forest Clearances, force majeure etc.**

16. **Early completion of the project should be rewarded suitably.**

17. **Measures like sharing of revenue subject to a maximum limit of 5% should be put in place to ensure that the exchequer is not short changed in case the executing agency earns windfall profits.**

18. **There is a need to mandate (a) laying of minimum 48 core fiber and (b) reserving a minimum of 50% of fibres to be offered as a dark fibre to other operators to ensure more than one operator is available for providing bandwidth at GP level.**

19. **The retail prices, for data services, can have a ceiling tariff, although it will not be required if multiple suppliers are available.**

20. **The availability of bandwidth from multiple operators shall automatically aid in a healthy competition resulting in a check on the retail prices of data services.**

21. **The regulator should set retail ceiling tariffs for the broadband services to ensure their affordability.**

22. **The Bandwidth / fiber that the TSP's hire from BharatNet should be at market determined prices, instead of the ceiling tariffs stipulated by the regulator, and these rates should be reviewed annually.**

23. **A Tripartitie Agreement (TPA), amongst the Central Government, State Government and the implementation agency, with a clause which makes time bound clearances including for RoW bounden on all the agencies under the respective governments should be incorporated in the TPA.**

24. **The time period for any time line slippage due to the actions / lack of action on part of any of the government agency(s) should be discounted from the execution time frame agreed upon in the TPA.**

25. **There is an urgent need to put in place a national policy for coordinated development of Infrastructure projects so as to ensure that the development of one project is not detrimental to the already existing infrastructure and that there is no disruption of existing services.**

26. **Creation of telecom ducts should be mandatory for the entire road building infrastructure projects being implemented in India.**

Detailed response to the queries raised by TRAI is as under:

Q.1 The "Report of the Committee on NOFN" has recommended three models and risks/advantages associated with these models. In your opinion what are the other challenges with these models?

Q.2 Do you think that these three models along with implementation strategy as indicated in the report would be able to deliver the project within the costs and time-line as envisaged in the report? If not, please elucidate.

Our Response

In our opinion the three models recommended in the "Report of the Committee on NOFN" are well suited for implementation of a project such as BharatNet. However, the challenges, for project implementation, are in terms of the hawkish implementation strategy adopted for these models.

Yes, the implementation strategy as indicated in the report would be able to deliver the project within the costs and time-line albeit with active participation of infrastructure development specialization private players. Accordingly, the EPC model too should be tested for implementation of BharatNet.

1. The DoT committee on NOFN has indeed done a stupendous job in detailing the implementation models and their respective advantages and risks. The report has rightly pinpointed the flawed project implementation strategy as the cause for the lack of impetus that has been experienced during the implementation of NOFN. The prohibitive checks and balances that introduce delays due to long chains of approvals, especially for finances are not conducive for implementation of modern IT infrastructure projects.

2. Some additional challenges that have been identified are as follows,

   a. Entrusting the implementation of the project to CPSUs is akin to introduction of a third party between the PMO (BBNL) and project implementer (Agency employed by CPSU for implementation of the project). This inherently elongates the chain of approvals and also creates a screen for the PMO who are unable to track the project directly.

   b. Staffing and reliance on government staff, instead of Professionals for Project Management, while creating BBNL.

   c. The guidelines of considering primacy of technical and project implementation capabilities, instead of least cost based selection of implementation agency with DMRC being the PMO monitoring the progress of the project, have proved their efficacy during the implementation of Delhi Metro project. However, it is observed that such learning's have been completely ignored for implementation of NOFN.

3. Additionally, it is suggested that for timely completion of the project, the contracts to winning bidders should be awarded with the conditions / preconditions as follows,

   a. Mandated to complete # RKM in XX Months with pre-mandated Duct / Fiber and Electronics Quality.

   b. Permitted to exploit their sunken Fiber and Access Infra while realizing the proposed Contracted Goals of RKMs.

4. Though the initial implementation of the project was undertaken as per the first model discussed in the DoT report, i.e. PSU led and the State led model too can be considered to be of a similar flavor, it is suggested that the third model, i.e. Private sector led EPC model should also be tested for implementation of the project. Participating in the EPC model based development work, the private sector has been instrumental in developing major infrastructure projects for the country. The discipline and professional approach of the private companies should be leveraged once again for a project of these gigantic proportions and should also be tested.

Our Recommendations

5. **It is recommended that this key infrastructure project should be implemented as a turnkey project similar to the Delhi Metro wherein,**

   a. **Technical and project implementation competencies should be the core criteria for section of the implementation agency instead of least cost based criteria.**

   b. **BBNL, as PMO, should be able to directly monitor the projects' progress for adherence to the cost and time lines of the project.**

   c. **Implementation agency to be,**

      i. **Mandated to complete # RKM in XX Months with pre-mandated Duct / Fiber and Electronics Quality.**

      ii. **Permitted to exploit their sunken Fiber and Access Infra while realizing the proposed Contracted Goals of RKMs.**

6. **Replication of the successful EPC model has a reasonable surety for succeeding in faster and high quality development of BharatNet Network Infrastructure.**

Q.3 Do you think that alternate implementation strategy of BOOT model as discussed in the paper will be more suitable (in terms of cost, execution and quality of construction) for completing the project in time? If yes, please justify.

Q.4 What are the advantages and challenges associated with the BOOT model?

Our response

No, the alternate implementation strategy of BOOT model as discussed in the paper will not be more suitable (in terms of cost, execution and quality of construction) for completing the project in time.

1. BOOT model of implementation of infrastructure projects envisages infusion of capital by the infrastructure developer himself and its repayment through the subsequent revenue that is earned by utilization of that infrastructure.

2. Given the facts that (a) there is a vast variation in the teledensity of urban and rural areas, (b) consumption of tele services, especially data, in rural India is yet to pickup, (c) there is deficiency of power in rural India, and (d) the literacy rate in rural India is yet to attain respectable levels, there are bleak chances of returns, especially in the short term horizon, from the rural India.

3. Accordingly, it is envisaged that despite BOOT model having been successful in other infrastructure projects development, its lucrativeness for the private players vis-à-vis its ability to provide the returns, in this highly competitive Indian telecom market, are quite bleak.

4. It is felt that the BOOT model shall lend itself to creation of monopolistic tendencies by the project implementer as he would be in a position to exploit his ownership of the infrastructure while subletting the services of the network irrespective of him being a retailer of telecom services or not.

Our Recommendations

5. **BOOT model is not suited for implementation of BharatNet at this stage and should not be implemented.**

Q.5 What should be the eligibility criteria for the executing agency so that conflict of interest can be avoided?

Q.7 What measures are required to be taken to avoid monopolistic behaviour of executing agency?

Q.8 What terms and conditions should be imposed on the executing agency so that it provides bandwidth / fibre in fair, transparent and non-discriminatory manner?

Our Response

1. As brought out in our response to the Q nos 1 & 2, the guidelines of considering primacy of technical and project implementation capabilities, instead of least cost based selection of implementation agency with DMRC being the PMO monitoring the progress of the project, have proved their efficacy during the implementation of Delhi Metro project. A similar approach is recommended for defining the selection criteria where in weightage to parameters such as experience of bidders, bidders past track record, any international experience, etc should be stipulated instead of setting the L1 criteria for the bids.

2. Additionally, for avoiding any conflict of interest due to the possibility of vertical integration of retail services of the implementation agency, and for ensuring that the executing agency provides bandwidth / fibre in fair, transparent and non-discriminatory manner, it is suggested that TRAI may regulate the whole sale prices of the services that are provided over the network that is implemented as a BOOT model.

Our Recommendations

3. **The technical and project implementation capabilities and track record, any international experience, etc should be the primary eligibility criteria for the implementation agency.**

4. **In order to obviate any conflict of interests / monopolistic behavior of the implementation agency, TRAI should regulate the whole sale prices of the services that are provided over the network that is implemented as a BOOT model.**

Q.6 Should there be a cap on number of States / licensed service area to be bid by the executing agency?

Our Response

No, there should be no cap on the number of States / licensed service area to be bid by the executing agency.

1. As long as the executing agency is able to fulfill the cost and time line SLAs agreed upon in the contract, it should be allowed to participate in the bidding process in maximum number of states / service areas.
2. Restricting / limiting the number of areas for participation in the bid might lead to precluding a better execution agency and hence lead to slippage of quality of the project execution if not cost and time line. However minimum 3 contractors should be engaged to avoid over reliance on any particular agency , whose failure may result in an adverse national impact.

Our Recommendation

3. **There should be no cap on the number of States / licensed service area to be bid by the executing agency.**

Q.9 What flexibility should be given to the agency in terms of selection of route of laying optical fibre, construction, topology and deployment of technology?

Our Response

1. Implementation of the OFC projects entails detailed on ground survey of the route which at times reveals that the route that was selected using the digital map is not suitable for the requirement at hand. It can so happen that slight deviations could provide better coverage due to the lay of the land / higher density of population getting covered / easier distribution of local cable web, etc. It cloud even lead to a cheaper option for laying the route and its subsequent enhancement. Therefore, it is imperative that the implementing agency has the leeway / flexibility to suitably modify the route as per the on ground requirements without compromising the objectives for that route. A formal oversight process can be established for vetting of the changes on its merits in a time bound manner.

Our Recommendations

2. **The implementation agency should have the flexibility to consider alternate options viz. alternate architecture, selection of alternate routes, choice of alternate network topology, if its finds the existing one inappropriate & inefficient.**

3. **The changes asked for by the implementation agency should be vetted and approved / rejected on its merit, in a fixed time frame, by a formally constituted Change Acceptance Board (CAB).**

4. **Alternately if SLA's are well drafted and payments are linked to quantity, quality and timeliness of the work done, this formal approval process can also be avoided.**

Q.10 What should be the methodology of funding the project? In case of VGF, what should be the method to determine the maximum value of VGF for each State / service area and what should be the terms and conditions for making payments?

Since we are not in favour BOOT model of implementation for BharatNet, hence we do not wish to offer any comments for this query.

Q.11 What kind of fiscal incentive and disincentive be imposed on the agency for completing the project in time / early and delaying the project?

<u>Our Response</u>

1. Implementation of projects of the size and magnitude of BharatNet requires meticulous planning and execution. However, given its enormity, there could be periods of accelerated execution due to highly favourable local conditions / there could be slippages on account of certain unforeseen, yet unavoidable circumstances / situations.

2. In the best interest of project execution it is suggested that timely / before time project completion should be rewarded through, monetization of an existing asset is the most appropriate incentive that any organization can be provided. Having built excessive capacities on their existing links, the implementation agencies, especially Telcos, can offer their excess / spare / unused capacity for speedier realization of BharatNet network. Accordingly, utilization of the existing assets of the implementing agency should be permitted as part of the project completion criteria and should be suitably factored in, as a selection criterion, in the bidding process.

3. However, any delay in project implementation should attract stiff penalties, subject to those delays not being attributable to issues beyond the control of the implementation agency. E.g. ROW, Forest Clearances, force majeure etc. Similarly, early completion of the project should be rewarded suitably.

<u>Our Recommendations</u>

4. **Monetization of the existing assets of the Telcos would be the most appropriate incentive for the private TSPs to participate actively in execution and faster operationalization of BharatNet Network.**

5. **Delay in project implementation should attract stiff penalties, subject to those delays not being attributable to issues beyond the control of the implementation agency. E.g. ROW, Forest Clearances, force majeure etc.**

6. **Early completion of the project should be rewarded suitably.**

Q.12 What should be the tenure / period after which the ownership of the project should be transferred to the Government?

Since we are not in favour BOOT model of implementation for BharatNet, hence we do not wish to offer any comments for this query.

Q 13 Do you think that some measures are to be put in place in case the executing agency earns windfall profits? How should windfall profits be defined?

Our Response and Recommendation

Yes, measures like sharing of revenue subject to a maximum limit of 5% should be put in place to ensure that the exchequer is not short changed in case the executing agency earns windfall profits.

Q.14 Whether there is a need to mandate the number of fibres to be offered as a dark fibre to other operators to ensure more than one operator is available for providing bandwidth at GP level?

Our Response

Yes, there is a need to mandate (a) laying of minimum 48 core fiber and (b) reserving a minimum of 50% of fibres to be offered as a dark fibre to other operators to ensure more than one operator is available for providing bandwidth at GP level.

Our Recommendations

Following are recommended,

1. **The implementing agency should be mandated to lay minimum 48 core fiber.**
2. **Minimum of 50% i.e. 24 cores should be reserved for other operators. The terms of leasing can be reciprocal.**

Q.15 What measures are required so that broadband services remain affordable to the public at large?

Our Response & Recommendation

For ensuring affordability of following measures are recommended to be adopted.

1. **Firstly, availability of bandwidth from multiple operators shall automatically aid in a healthy competition resulting in a check on the retail prices.**
2. **Secondly, the regulator can set retail ceiling tariffs for the broadband services.**
3. **The Bandwidth / fiber that the TSP's hire from BharatNet should be at market determined prices, instead of the ceiling tariffs stipulated by the regulator, and these rates should be reviewed annually.**

Q.16 What safeguards are to be incorporated in the agreement entered between Government and executing agencies if RoW is not being granted to the executing agency in time?

<u>Our Response and Recommendation</u>

1. **It is recommended that a Tripartitie Agreement (TPA) amongst the Central Government, State Government and the implementation agency with a clause which makes time bound clearances, including for RoW, bounden on all the agencies under the respective governments should be incorporated in the TPA.**
2. **The time period for any time line slippage due to the actions / lack of action on part of any of the government agency(s) should be discounted from the execution time frame agreed upon in the TPA.**

Q.17 The success of BOOT Model depends on participation of private entities which will encourage competition. What measures should be adopted to ensure large scale participation by them?

Since we are not in favour BOOT model of implementation for BharatNet, hence we do not wish to offer any comments for this query.

Q.18 Please give your comments on any other related matter not covered above.

<u>Our response</u>

1. **Need for formulation of national policy for Coordinated Infrastructure Development.** There is an urgent need to put in place a national policy for coordinated development of Infrastructure projects so as to ensure that the development of one project is not detrimental to the already existing infrastructure and that there is no disruption of existing services. Such a policy assumes significance to ensure uninterrupted data connectivity and longitivity of the optical fiber as frequent cuts would lower its efficacy much earlier than its designated lifespan.

2. **Creation of telecom ducts should be mandatory for all the road building infrastructure projects being implemented.** They should create enough capacity to provide access to existing ROW owners whose cables are cut in the process of digging roads at attractive rates. A higher rate can be charged from the new players.